

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P588645

Luminaire Tested: **FM15WSCCR-4000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588645
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (MXL1052-15A)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 12/1/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: FM15WSCCR-4000K
Description: FM WS CCT SELECT
Light Source: (1) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

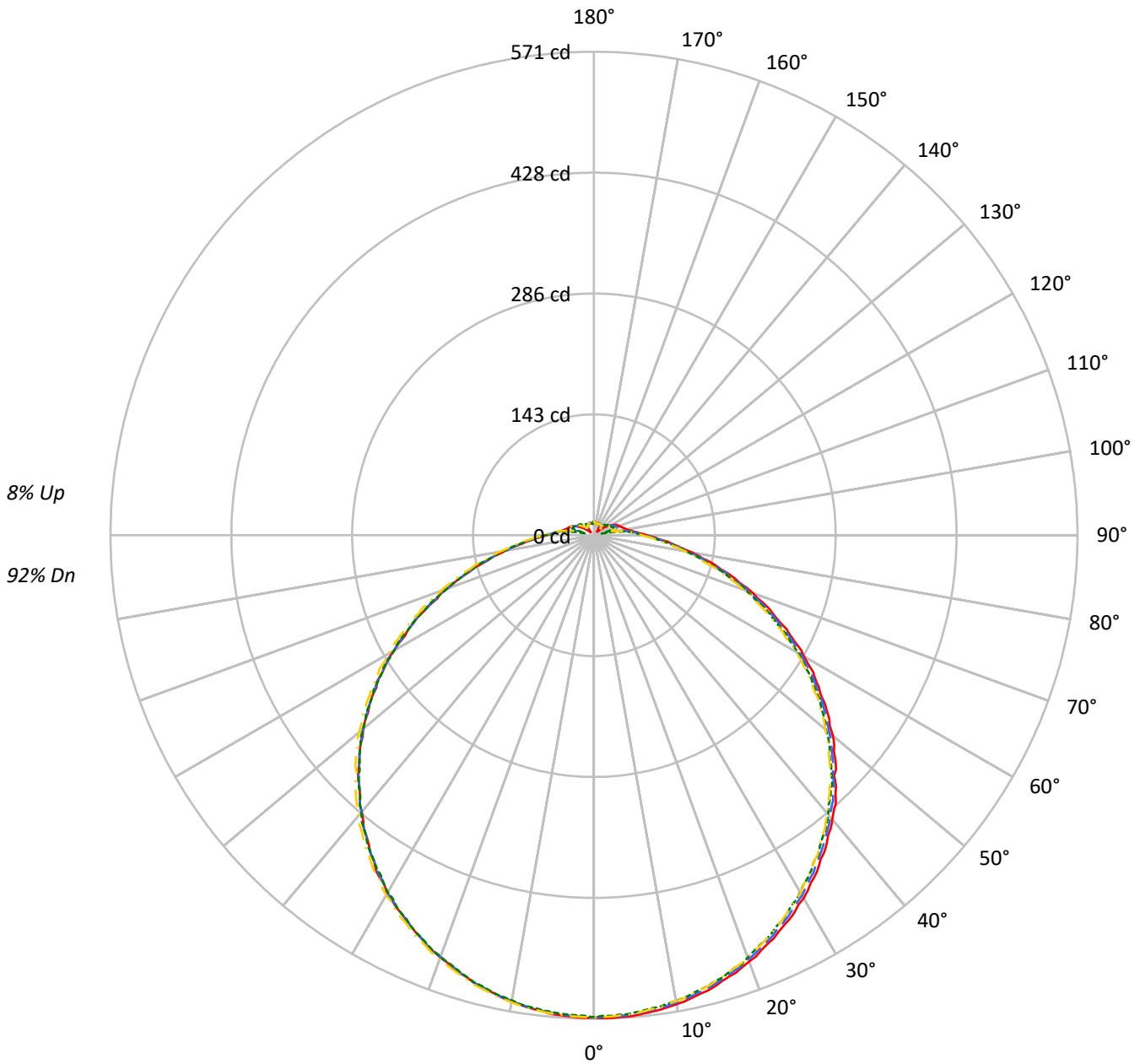
Lumens per Lamp: N/A
Luminaire Lumens: 1951.0 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.25m x L: 1.25m x H: 0.34m)
CIE Type: Direct

Input Watts (W): 20.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	95	95	95	95
1	106	100	95	91	102	97	93	89	91	88	85	86	83	81	81	79	77	77	77	77	74
2	95	87	79	73	92	84	77	72	79	74	69	75	70	66	71	67	63	63	63	63	61
3	87	76	67	60	84	73	65	59	69	63	57	66	60	55	62	57	53	53	53	53	51
4	79	67	58	51	76	65	56	50	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	43	55	47	42	52	45	40	49	44	39	39	39	39	37
6	67	53	44	38	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	37	32	27	27	27	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	30	25	34	29	24	24	24	24	23
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	364	364	364	364
5°	357	355	356	355
10°	349	346	347	346
15°	341	337	338	337
20°	332	329	329	328
25°	324	319	320	320
30°	316	311	312	311
35°	306	303	302	301
40°	298	293	290	291
45°	285	282	280	278
50°	277	269	267	267
55°	262	256	252	255
60°	249	243	237	237
65°	231	223	220	220
70°	214	205	197	198
75°	190	183	177	177
80°	171	161	154	157
85°	156	144	137	143



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.9	2.8
10°-20°	154.6	7.9
20°-30°	236.1	12.1
30°-40°	288.8	14.8
40°-50°	305.9	15.7
50°-60°	285.9	14.7
60°-70°	231.6	11.9
70°-80°	157.4	8.1
80°-90°	89.6	4.6
90°-100°	48.1	2.5
100°-110°	27.1	1.4
110°-120°	25.3	1.3
120°-130°	16.4	0.8
130°-140°	9.6	0.5
140°-150°	8.3	0.4
150°-160°	6.7	0.3
160°-170°	4.2	0.2
170°-180°	1.4	0.1
0°-30°	444.6	22.8
0°-40°	733.5	37.6
0°-60°	1325.2	67.9
0°-90°	1803.9	92.5
90°-120°	100.6	5.2
90°-150°	134.9	6.9
90°-180°	147.0	7.5
0°-180°	1951.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	569	569	569	569	569	
5°	569	566	568	565	569	54
15°	552	546	547	547	552	156
25°	516	510	510	510	516	238
35°	467	462	460	459	467	293
45°	401	396	394	391	401	312
55°	326	319	313	317	326	293
65°	242	233	230	231	242	241
75°	155	149	144	145	155	166
85°	88	81	77	80	88	77
90°	62	59	56	57	62	35
95°	48	43	43	44	48	38
105°	35	15	32	14	35	37
115°	29	23	25	25	29	28
125°	18	20	13	22	18	16
135°	7	17	5	18	7	6
145°	10	15	13	16	10	6
155°	15	14	14	15	15	7
165°	15	14	14	15	15	4
175°	15	15	16	15	15	1
180°	16	16	16	16	16	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	569.4	569.4	569.4	569.4	569.4
1°	570.6	567.8	570.3	567.8	570.6
2°	570.6	567.8	569.9	567.4	570.6
3°	570.0	567.1	569.0	566.9	570.0
4°	569.9	566.9	568.2	566.3	569.9
5°	569.2	565.6	567.7	565.3	569.2
6°	567.8	564.3	566.0	564.5	567.8
7°	566.8	562.9	564.5	562.8	566.8
8°	565.9	562.1	563.3	562.0	565.9
9°	564.0	560.1	561.0	560.4	564.0
10°	562.4	558.5	559.0	557.8	562.4
11°	560.9	556.7	557.5	555.9	560.9
12°	558.5	553.9	554.6	554.2	558.5
13°	556.1	551.4	552.1	551.3	556.1
14°	554.3	549.6	549.9	548.5	554.3
15°	551.7	546.3	547.3	546.6	551.7
16°	548.1	544.3	543.3	543.0	548.1
17°	545.2	540.9	541.0	539.8	545.2
18°	543.1	537.0	537.4	535.6	543.1
19°	539.1	536.2	533.5	533.1	539.1
20°	535.9	530.8	530.8	529.4	535.9
21°	533.3	526.2	527.0	526.7	533.3
22°	528.4	522.3	524.0	522.5	528.4
23°	524.6	519.3	519.0	517.7	524.6
24°	521.5	515.1	514.7	514.6	521.5
25°	516.5	509.7	510.3	510.3	516.5
26°	512.3	506.5	506.0	504.7	512.3
27°	509.0	501.8	501.1	501.2	509.0
28°	504.6	496.0	497.8	496.5	504.6
29°	498.6	492.4	492.5	490.3	498.6
30°	495.1	487.3	488.9	486.7	495.1
31°	490.0	481.0	480.9	481.2	490.0
32°	483.5	476.8	477.0	474.2	483.5
33°	479.6	471.5	472.7	470.2	479.6
34°	473.9	464.5	464.1	464.5	473.9
35°	467.0	461.5	459.7	458.7	467.0
36°	462.7	454.1	452.2	454.4	462.7
37°	456.8	448.0	446.0	446.8	456.8
38°	449.3	443.3	441.2	440.5	449.3
39°	444.6	437.1	433.2	435.7	444.6
40°	438.1	430.5	426.5	427.5	438.1
41°	431.7	422.4	421.7	421.0	431.7
42°	426.7	417.3	412.9	412.3	426.7
43°	418.5	410.5	406.0	407.0	418.5
44°	411.6	405.2	400.8	399.9	411.6



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	401.2	396.5	393.8	391.2	401.2
46°	397.6	389.4	384.5	385.6	397.6
47°	390.3	380.0	378.7	378.3	390.3
48°	381.3	374.5	371.2	370.8	381.3
49°	375.9	366.9	361.8	365.1	375.9
50°	368.2	357.5	355.8	355.6	368.2
51°	358.6	351.6	347.9	347.5	358.6
52°	352.7	343.8	338.0	341.7	352.7
53°	344.6	335.5	331.9	331.6	344.6
54°	336.4	329.6	323.8	323.4	336.4
55°	326.3	319.4	313.4	317.3	326.3
56°	320.3	311.2	309.1	306.6	320.3
57°	311.5	304.7	298.3	298.5	311.5
58°	305.6	294.6	290.0	292.2	305.6
59°	294.8	286.1	283.6	281.4	294.8
60°	286.5	279.5	272.8	272.8	286.5
61°	279.9	268.8	263.8	266.0	279.9
62°	268.9	259.9	252.7	257.4	268.9
63°	259.9	253.1	246.3	246.3	259.9
64°	253.3	242.2	237.0	239.4	253.3
65°	242.0	233.4	230.4	230.7	242.0
66°	233.3	226.8	219.3	219.6	233.3
67°	226.5	217.9	210.3	212.9	226.5
68°	217.6	206.8	199.2	204.4	217.6
69°	206.5	200.0	195.2	193.4	206.5
70°	200.0	191.3	183.9	184.7	200.0
71°	191.0	184.7	175.8	178.1	191.0
72°	180.2	173.8	168.9	167.6	180.2
73°	173.8	165.5	158.4	161.1	173.8
74°	165.4	159.1	150.3	152.8	165.4
75°	155.0	149.2	144.2	144.6	155.0
76°	148.7	141.0	134.2	139.0	148.7
77°	140.7	131.3	126.7	129.5	140.7
78°	131.0	126.0	121.3	122.1	131.0
79°	125.2	118.2	112.1	116.9	125.2
80°	117.9	111.0	106.7	108.4	117.9
81°	109.2	106.3	100.3	101.9	109.2
82°	102.6	98.3	94.1	97.3	102.6
83°	97.7	92.2	86.5	89.8	97.7
84°	91.5	87.9	82.2	84.4	91.5
85°	87.5	80.7	76.9	80.3	87.5
86°	80.5	75.6	71.0	73.7	80.5
87°	75.4	71.9	67.7	69.3	75.4
88°	71.9	66.1	63.6	65.1	71.9
89°	66.7	61.8	59.0	61.9	66.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	62.5	59.0	56.1	57.1	62.5
91°	59.8	54.3	53.0	54.1	59.8
92°	55.6	51.1	49.5	51.0	55.6
93°	52.8	48.8	47.5	48.4	52.8
94°	50.9	46.0	45.3	46.3	50.9
95°	47.8	42.8	43.2	43.7	47.8
96°	45.9	40.2	41.9	40.3	45.9
97°	44.5	35.6	39.8	35.6	44.5
98°	42.8	29.0	38.4	32.2	42.8
99°	41.0	24.4	37.3	25.5	41.0
100°	39.8	18.8	35.9	21.5	39.8
101°	38.5	12.6	35.2	15.7	38.5
102°	37.4	10.5	34.3	10.7	37.4
103°	36.6	9.3	33.4	9.8	36.6
104°	35.8	12.3	32.6	10.5	35.8
105°	35.1	15.1	32.2	14.4	35.1
106°	34.3	18.6	31.6	19.1	34.3
107°	33.7	22.3	30.8	22.0	33.7
108°	33.0	25.1	30.5	25.1	33.0
109°	32.3	25.2	30.2	26.7	32.3
110°	31.9	24.7	29.3	26.5	31.9
111°	31.1	24.7	28.8	26.1	31.1
112°	30.8	24.3	28.5	25.8	30.8
113°	30.2	24.1	27.3	25.5	30.2
114°	29.9	23.7	26.2	25.2	29.9
115°	29.0	23.4	25.4	24.9	29.0
116°	28.3	22.9	24.4	24.7	28.3
117°	27.5	22.9	22.9	24.3	27.5
118°	25.9	22.6	22.0	24.1	25.9
119°	24.9	22.3	20.4	23.6	24.9
120°	23.6	22.2	19.7	23.3	23.6
121°	22.5	21.5	18.0	23.0	22.5
122°	21.5	21.2	17.0	22.6	21.5
123°	20.4	21.1	16.2	22.2	20.4
124°	19.6	20.8	14.3	21.7	19.6
125°	17.9	20.4	12.6	21.7	17.9
126°	17.0	20.2	11.5	20.8	17.0
127°	15.9	20.1	9.8	20.8	15.9
128°	15.0	19.4	8.3	20.5	15.0
129°	13.0	19.1	7.5	20.2	13.0
130°	12.2	18.8	5.8	19.8	12.2
131°	10.8	18.3	5.0	19.4	10.8
132°	9.6	18.2	4.7	18.8	9.6
133°	8.6	17.9	4.9	18.7	8.6
134°	7.6	17.6	5.1	18.6	7.6



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	6.7	17.3	5.3	18.0	6.7
136°	6.1	17.2	5.8	17.7	6.1
137°	5.8	16.9	6.8	17.7	5.8
138°	5.8	16.6	7.5	17.6	5.8
139°	5.8	16.4	8.2	17.5	5.8
140°	6.4	16.1	9.3	17.2	6.4
141°	7.1	15.8	9.8	16.9	7.1
142°	7.3	15.9	10.7	16.5	7.3
143°	8.2	15.7	11.4	16.2	8.2
144°	9.0	15.1	12.2	16.2	9.0
145°	9.6	15.0	13.0	15.8	9.6
146°	10.5	15.0	13.7	15.7	10.5
147°	11.1	14.7	14.0	15.5	11.1
148°	11.4	14.8	14.6	15.5	11.4
149°	12.3	14.6	14.4	15.1	12.3
150°	12.9	14.4	14.4	15.1	12.9
151°	13.5	14.4	14.4	15.0	13.5
152°	14.0	14.4	14.4	15.1	14.0
153°	14.3	14.1	14.4	14.8	14.3
154°	14.7	14.3	14.3	15.0	14.7
155°	14.8	14.1	14.4	14.8	14.8
156°	14.8	14.4	14.4	14.8	14.8
157°	14.8	14.6	14.6	14.7	14.8
158°	15.0	14.6	14.7	15.1	15.0
159°	15.0	14.6	14.7	15.0	15.0
160°	15.1	14.8	15.1	15.0	15.1
161°	15.5	15.0	15.1	15.1	15.5
162°	15.5	15.1	15.4	15.4	15.5
163°	15.8	15.4	15.1	15.5	15.8
164°	15.5	14.8	14.6	15.0	15.5
165°	14.7	14.4	14.3	14.8	14.7
166°	14.6	14.3	14.4	14.6	14.6
167°	14.4	14.0	14.3	14.6	14.4
168°	14.0	14.0	14.0	14.4	14.0
169°	14.1	13.7	13.8	14.4	14.1
170°	13.8	13.5	13.7	14.3	13.8
171°	13.8	13.7	13.8	14.0	13.8
172°	13.7	13.5	13.5	13.8	13.7
173°	13.8	13.0	13.5	13.7	13.8
174°	13.8	13.0	14.7	14.1	13.8
175°	14.6	14.8	15.7	15.1	14.6
176°	15.8	15.5	15.8	15.7	15.8
177°	15.8	15.8	15.8	15.9	15.8
178°	15.9	15.8	15.9	16.1	15.9
179°	15.8	15.9	15.8	16.1	15.8



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	15.8	15.8	15.8	15.8	15.8

(END OF REPORT)